REMARKS

Claims 1-4 and 6-22 are pending in the application. With entry of this Amendment and Response, claims 1, 4, 6, 9-10, 13-14 and 19-22 are amended. Claims 6-8 and 12 are canceled and their subject matter incorporated into claim 1. The claims as amended specify one lighter fraction is produced in step (a). The amendments are supported by the application as originally filed, and no new matter is added. With entry of this Amendment, claims 1-4, 9-11, and 13-22 are pending.

Please note U.S. App. Serial No. 10/808,940, under common assignment with the present application, is presently pending. Assignment of 10/808,940 and the present application, 10,712,169 to a common Examiner is respectfully requested.

35 U.S.C. §103(a)

Claims 1-4, 9-11, and 13-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wittenbrink et al. (Simon et al.) (WO 97/14769). Applicants respectfully traverse.

In order to establish a prima facie case of obviousness, three basic criteria must be met, namely: 1) the references when combined must teach or suggest all of the claim limitations; 2) a suggestion or motivation to modify the references or combine the reference teachings must be present; and 3) the references when combined must provide a reasonable expectation of success. Applicants submit that all of these requirements have not been met.

Briefly, applicants discovered a process for the production of middle distillates having a high Cetane number and good cold flow properties. The process includes hydrotreating one or more light fraction obtained from the steps of the process that result in a light fraction. The hydrotreating step removes undesirable oxygenates and heteroatoms that are detrimental to the Cetane number and to the storage stability of the resulting middle distillate. The claimed process also provides a diesel product having a low degree of isomerization in the 160-279 °C fraction and a high degree of isomerization in the 270-370 °C fraction (page 12 lines 11-17). The steps of the process allow for the manipulation of the iso-paraffin to n-paraffin ratio across the ranges C_8 to C_9, C_{10} to C_{18} and C_{19} to C_{24} that leads to a balance of linearity and branching providing good

low flow properties below -35 °C and a Cetane number over 70. The process provides middle distillates useful as diesel fuels having improved quality.

In sharp contrast to the claimed process as amended, Wittenbrink et al. separates the products of the FT synthesis reaction into 700 °F+ (371 °C+) and 700 °F- (371 °C-) fractions and **does not** hydrotreat the 700 °F- (371 °C-). Wittenbrink expressly disclaim the need to remove oxygenates by hydrotreating the lighter fraction (See, page 7 last paragraph). Although hydrotreating is acknowledged by Wittenbrink et al. as a means to eliminate oxygenates and unsaturation, Wittenbrink et al. immediately state that oxygenates are preferable to provide lubricity to high paraffinic diesel fuel (page 7 second paragraph to top of page 8 and example 8). Hence, Wittenbrink et al. process teaches away from the claimed process by providing distillate that intentionally retains oxygenates to provide product with high cetane number and high lubricity (Background of the Invention and page 7).

To summarize, Applicants' claimed process includes hydrotreating at least some of a lighter fraction which boils in the range of C_5 to 270°C. Wittenbrink et al. fails to teach or suggest hydrotreating at least some of a lighter fraction before blending with the middle distillate (step d) according to the claimed process and furthermore teaches away from the claimed process by advising that a light fraction 700 °F- (371 °C-) is not hydrotreated to preserve oxygenates.

It is further noted that the Office admits Wittenbrink fails to disclose that the middle distillate is blended with a portion of the first light fraction that has been hydrotreated. But, subsequently alleges that it would be obvious to combine a hydrotreated light fraction with the middle distillate because the hydrotreating would remove unsaturates and heteroatoms (such as oxygenates) because "the majority of the first light fraction boils within the boiling ranges of the middle distillate." Even if correct, a point that Applicants do not concede, there is no evidence that overlap in boiling ranges is sufficient teaching or suggestion to combine different fractions. Furthermore, as emphasized above, Wittenbrink does not hydrotreat any fractions having boiling points below 700 °F (371 °C). Hence, there is no basis for a person of ordinary skill in the art to hydrotreat at least some of the light fraction before the blending step. Applicants respectfully submit that the claimed process as a whole is not obvious in view of Wittenbrink et al..

The Office action also alleges that it would be obvious to one of ordinary skill in the art to blend fractions of distillate to achieve a particular mass ratio of n-paraffins to iso-paraffins.

As admitted in the Office Action, the claimed mass ratios for the heavier fraction are not disclosed by Wittenbrink et al. Claims reciting mass ratios depend from claim 1 and further limit claim 1. For the reasons stated above, Applicants respectfully submit that claim 1 is allowable, and therefore, claims depending from claim 1 are likewise allowable.

Since Wittenbrink fails to teach all the claimed elements, and further teaches away from such modification, Applicants respectfully submit that claims 1-4, 9-11, and 13-22 are not obvious over Wittenbrink et al. and request that the rejection be withdrawn.

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Date: December 28, 2006

/Anne M. Murphy/
By: Anne M. Murphy
Reg. No. 54,327